

REMARKS

Claims 1-50 are pending. Claims 1, 5, 19, 33 and 37 have been amended as described below. Reconsideration is respectfully requested in light of these amendments and the remarks that follow.

With respect to the rejection of claims 1-4 and 33-36 under 35 U.S.C. § 112, 2nd ¶, applicants have amended each of claims 1 and 33 to indicate in the preamble that the medium contains one or more areas. Thus, the later recitations of the term "area" in these claims and in their dependent claims now have clear antecedent basis.

Turning now to the art rejections, claims 1-50 have been rejected under 35 U.S.C. § 103(a), claims 1-8, 17-22, 31-40, 49 and 50 based on U.S. patent 5,845,018 to *Breish* in view of U.S. patent 6,317,221 to *Aikawa et al.* (*Aikawa*) in further view of U.S. patent 6,064,778 to *Pasco et al.* (*Pasco*). Each of the remaining originally-filed claims stands rejected on this base combination of references in further view of another reference: claims 14-16, 28-30 and 46-48 in further view of U.S. patent 5,867,277 to *Melen et al.*; claims 9, 23 and 41 in further view of U.S. patent 6,148,033 to *Pearlstein et al.*; claims 10, 11, 24, 25, 42 and 43 in further view of U.S. patent 5,606,375 to *Lee*; claims 12, 26 and 44 in further view of U.S. patent 5,337,164 to *Yabe et al.*; and claims 13, 27 and 45 in further view of U.S. patent 6,148,115 to *Mackinnon et al.*

Breish is directed to processing scanned images. *Breish's* process includes a set up phase in which a low resolution scan of the images is performed using initial parameters of the scanner. The scanner parameters are then adjusted based on the low resolution scan, and boundaries for defining a block of image data are defined. The parameters are also set to define expected boundaries of the individual images within the block. Once the set up phase is complete, the block of images is scanned and buffered as high resolution digital data. See *Breish*, col. 2, lines 51-63.

Data derived from the high resolution scan is supplied to a quality assurance station. That data is used to produce a display of all scanned images. Expected boundary information for each individual image is also supplied to the

quality assurance station so that the user can view images for which expected boundaries exist. The digital data is processed to adjust the expected boundaries of the individual images so that they match the actual boundaries, and the adjusted expected boundaries are stored. Images for which no expected boundaries exist need not be placed back into the scanner, since the image data was acquired and stored as a block of data. Rather, the block of stored image data is merely reprocessed to segment it into individual multiple images based on the adjusted expected boundaries thereby redefining portions of the block of image data which correspond to each of the multiple images. The adjusted expected boundaries can then be correlated to the individual stored images so that the images can be accurately retrieved. See *Breish*, col. 2, line 64 – col. 3, line 21.


The individual-image-extraction technique of applicants' invention is different. Unlike *Breish's* process which requires user intervention in examining boundaries and detecting edges, applicants' invention performs many operations automatically, that is, without user intervention. Each of independent claims 1 and 33 has been amended to emphasize that the following operations are performed without user intervention: defining borders of the medium, such that all of the individual images are within the defined borders; applying a smoothen filter to the low-resolution representation; detecting edges of each area containing at least one image; determining, and if necessary correcting, the orientation of the medium; and locating each of the individual images within its corresponding area in the medium. Each of independent claims 5 and 37 has been similarly amended to emphasize the automatic performance of operations (b)(1) through (b)(6). Independent apparatus claim 19 has been amended to recite that each of the subcomponents of the processing means is configured to perform its operation without user intervention. In fact, with applicants' invention, once the image-containing medium, e.g., film, is placed in a holder and the holder placed on the scanner bed, the operations may be implemented so that the only other user input required is the indexes of the photos to be printed in high-resolution. See applicants' specification, p. 8, lines 17-20.

Aikawa's technique of employing a smoothing filter in the processing of scanned film does not offset the shortcomings of *Breish*. In particular, *Aikawa* does not teach the processing of a low-resolution digital representation in the manner claimed by applicants, that is, by performing the recited operations without user intervention. *Pasco's* skew compensation scheme likewise falls short of overcoming the deficiencies of *Breish* with respect to applicants' claimed invention.

Accordingly, it is respectfully submitted that each of independent claims 1, 5, 19, 33 and 37 is patentably distinguishable over the combination of *Breish*, *Aikawa* and *Pasco*. It is further submitted that each of the remaining dependent claims is patentable for at least the same reasons as its independent claim.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration of the present application.

Respectfully submitted,


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